REMARKS

By this Amendment claim 22 has been amended to more clearly define the inventive subject matter and claims 28 and 29 have been redrafted to be in independent form. Based on the examiner's indication of allowable subject matter in claims 28 and 29, it is believed these claims should be allowed.

The examiner's allowance of claims 31, 33 and 34 is noted with appreciation.

The examiner has rejected claims 22, 26-27 and 30 under 35 U.S.C. 103(a) as unpatentable over Zeller et al. in view of Yavus et al. (newly relied upon).

The applicants assert that this rejection is incorrect.

Zeller et al. disclose a method and apparatus for producing x-ray exposure of human body parts, the apparatus including an X-ray source, multiple detectors mounted on a carrier, and means to move the carrier. The apparatus can produce four tomograms of a mandibular arch (col. 5, lines 1-2); however, as shown in Fig. 6 the four tomographs are slices which are spaced one to another in the direction of the X-ray beam. Although it is possible to scroll step by step from the first tomogram S1, S1' to the last tomogram S4, S4', this is not a 3D-image, since there is no relation between the image data of one tomogram to the other. For

example, it is not possible to scroll from any other direction through the set of images as it is the case in 3D images.

All tomograms are taken from significantly the same direction of the mandibular arch.

Thus, it is not true that this is the same as means for creating 3D images of a subvolume.

In column 5, lines 3-18 and column 5, line 66 to column 6, line 37, it is disclosed that the detector width should be at least 20 mm, and this consequently teaches the use of an X-ray beam covering this detector. It is admitted that the X-ray beam used to take each of the four tomograms is a cone beam. However, there is no disclosure of creating several 2D images from different directions as is necessary to compute a 3D image afterwards.

In column 5, lines 3-18 and column 5, line 66 to column 6, line 3, it is disclosed that the CCD sensor is operated in a TDI mode with an analog summation within the active CCD area. However, these 2D images are not suited for calculation of a 3D image. Only projections can be used, but no images obtained with TDI.

In column 6, lines 3 to 37, it is disclosed that the CCD sensor is operated without TDI mode by acquiring an image of the complete sensor area for each motion increment. These 2D images are projections, but since they are taken from almost the same direction, they cannot be used to calculate a 3D image.

Result: Zeller et al. clearly does not teach means provided for the creation of 3D images of a subvolume, which means creating several 2D images from different directions and computing a 3D image therefrom using cone beam technology with associated reconstriction algorithms.

Yavus et al. teach general principles of cone beam VCT but proposes to take conventional 2D X-ray projection radiograph data with a circular tomothesis system and to transform these data to be able to execute a cone beam VCT reconstruction.

The invention teaches the use of cone beam VCT with the 2D images obtained with a cone beam.

Thus, the combination of Yavus et al. with Zeller et al. would lead to a circular tomothesis system instead of a cone beam VCT.

The examiner's prior art rejection based on Zeller et al. in view of Yavus et al. should be withdrawn.

Favorable reevaluation of claims 22, 26, 27 and 30 is requested.

Respectfully submitted,

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